Executive Overview

Introduction

The U.S. Census Bureau's mission is to be the preeminent collector and provider of timely, relevant and quality data about the people and economy of the nation. Successfully achieving this mission depends on the systems, the people, and the infrastructure that make up the Information Technology (IT) environment of the U.S. Census Bureau.

The U.S. Census Bureau's IT mission is to provide our employees and customers with the capability to readily collect, organize, share, protect, disseminate, and store the information needed to successfully accomplish their goals. We are centrally managing program requirements, policy formulation, planning, technical direction (including development and expansion of the IT architecture), oversight (including oversight of system development, IT acquisition and security) and day-to-day operations. The scope of the IT Directorate's mission encompasses centralized information and process management as well as providing direction for decentralized execution.

Census Modernization Initiative

As the U.S. Census Bureau enters the 21st Century and finishes work on the 2000 Decennial Census, we will need to significantly modernize our technological infrastructure, which will directly enhance our ability to produce timely quality data about the people and economy of this nation.

Our current infrastructure is based on technology from the 1960's, 70's, and 80's. We are using outdated systems, and are forced to rely on software and hardware that is becoming obsolete. We need to replace our "homegrown" solutions with commercially available technology.

This Census Modernization initiative (the only IT initiative submitted in this Plan and in our FY 2001 budget submission) begins the end-to-end modernization of the technology to support our censuses and surveys. The U.S. Census Bureau's core business processes are data collection, processing and dissemination; we intend to use information technology advances to improve our survey processes and meet our customers' increasing expectations. These advances provide us with an opportunity to make major improvements in our business processes and to successfully survive in an increasingly competitive survey data collection processing and dissemination market.

Specifically, this new initiative covers the following functions and capabilities:

dating and/or augmenting existing survey systems is more prevalent.

This Executive Overview provides a brief description of the U.S. Census Bureau's IT environment, the program areas' plans and needs, how we will measure success, how we will implement a "Digital" Commerce, how we are solving the Y2K problem, the risks to our programs, and our security efforts.

Enterprise IT Support

The IT Directorate is responsible for providing the guidance and the framework that IT professionals in the program areas use to complete their tasks. The IT Directorate has technical and management areas working together to support enterprise initiatives, business processes, and the U.S. Census Bureau's IT goals and strategies.

Our current IT architecture has expanded to include business processes, applications, and data that use the technical infrastructure. It provides an evolving set of IT standards, services, protocols, and products that define the target environment and guide future IT efforts. Our future IT architecture will continue to move the U.S. Census Bureau from a centralized mainframe environment to a managed, distributed open-systems environment.

The Bowie Computer Center is a reliable, state-of-the-art processing facility providing centralized computing that supports the U.S. Census Bureau program areas. Many workstation servers and file and database servers, as well as an Internet access point and the data transmission prototype, still reside in multiple locations at the U.S. Census Bureau's Suitland, Maryland site. However, we have made significant progress in accomplishing one of our major goals, moving workstations and office automation servers from Suitland to Bowie. This activity is continuing as a coordinated effort between the IT Directorate and the program areas. The Bowie Computer Center is conducting systems management at the request of the program areas; some remain decentralized, while others are opting for full central management by the IT Directorate. Service Level Agreements document the customer/provider relationship and include appropriate performance metrics for Bowie Computer Center services. Consolidation of processing equipment at the Bowie Computer Center enhances our ability to ascertain our total hardware and software maintenance requirement, and will ensure the proper physical and operational environment for the U.S. Census Bureau's systems, including the development of enterprise-wide data backup, disaster recovery, and data archiving capabilities.

The need for a robust, reliable, scalable and secure network becomes increasingly important as we continue to move toward a future environment in which most internal and external transactions are performed electronically. We have upgraded old hub technology with high-speed ether-switches; we have also upgraded the communications bandwidth speeds for the Bowie Computer Center, Headquarters, the National Processing Center, and the telephone centers.

Geography Division

The Geography division has two major IT components: The Geographic Support System (GSS), and the GSS Infrastructure. Geography's goal is to provide the basic maps, reference files, and associated processing systems needed to meet the geographic requirements of all U.S. Census Bureau programs. The GSS supports most of the U.S. Census Bureau's censuses and surveys.

The GSS architecture includes the following: enterprise systems at the Bowie Computer Center for maintaining the Topologically Integrated Geographic Encoding and Referencing (TIGER) database and the Master Address File; equipment at Regional Offices/Regional Census Centers; a replica of the complete Regional Census Center configuration at the Suitland, MD, Beta Site; continuing census operations at the National Processing Center in Jeffersonville, IN; and software development and major system administration from Headquarters.

Acquiring replacement hardware to process the TIGER database is critical to the success of all Geographic support efforts. The Geography Division needs updated hardware and software to meet the peak processing requirements of Census 2000 and the American Community Survey, to improve the capability of TIGER and the Master Address File, to produce large-format color maps for customers, and to allow for enhanced technology in Fiscal Years 2000 and 2001.

Replacing the obsolete systems such as the geographic information system is a goal of the Census Modernization initiative. As part of this initiative, we will do the following:

- **evaluate and select commercial off-the-shelf software to replace our Bureau-developed system;**
- **move our data to the commercial off-the-shelf database; and**
- **evaluate the use of satellite and other global positioning information systems to improve our ability to geographically locate housing units and business establishments.**

Data Access and Dissemination System (DADS)

The Data Access and Dissemination System (DADS) is comprised of two primary subsystems: American FactFinder and Data Products Production. These subsystems jointly comprise a suite of applications designed to provide responsive, multi-tiered, near-universal access to the U.S. Census Bureau's vast storehouse of data through a state-of-the-art, Internet-based, user-interactive interface implemented via current World Wide Web technology.

The American FactFinder allows users to select census products or submit queries against varied data sets to extract meaningful information and produce results, which can be in table or map form.

Economic Program Area

The Economic program area is comprised of four parts: Economic Census and Surveys, Foreign Trade Statistics, Government Census and Surveys, and The Office of the Chief Economist. The Economic program area helps the public understand the U.S. economy and its competitive position in the global economy. Once every five years, the U.S. Census Bureau conducts the Economic Census. In addition, the Foreign Trade Division is the sole source of the official statistics on U.S. merchandise trade with foreign countries. The Governments Division provides statistical data on the organization, finances, and human resources of state and local governments throughout the U.S., undertaking a complete Census of Governments every five years as well as annual surveys and special studies. The Office of the Chief Economist provides analysis and research, resulting in better quality economic measures, as well as providing access to U.S. Census Bureau microdata to both the public and private sectors.

Currently, the Economic program area primarily uses enterprise computing to process its censuses and surveys. Our large-scale systems are located at the Bowie Computer Center on an open-system, UNIX environment. This supports the goal of using equipment that is modular in architecture, scalable, standards-based, redundant and sufficiently flexible and powerful enough to support a variety of different applications.

In FY 99 we completed a critically needed enhancement to upgrade the Office of the Chief Economist's network. This was vital to support timely movement of data extracts between computers and to help us successfully implement the Economic Microdata Warehouse prototype project. We will also upgrade the telecommunications infrastructure to improve Foreign Trade operations.

Acquiring additional equipment and more computing power, expanding network capacity, and improving application software will allow us to better meet the demands of our clients, customers, stakeholders, and the general public.

The Economic program area will see early benefits from the use of data capture scanning technology and data dissemination capabilities included in our Census Modernization initiative.

Field Operations

The Field Operations program area is divided into three major business areas that support U.S. Census Bureau data collection programs. The Technologies Management Office develops automated systems to facilitate data collection; the National Processing Center and the Field Division conduct the data collection activities. The decentralized field organization and variety of data collection methodologies require a distributed and flexible IT infrastructure (the Field Integrated System). Our objective over the next five years is to move to state-of-the-art hardware and software technologies. Implementing new hardware and re-

Methodology and Standards Program Area

The Methodology and Standards program area includes coverage of three major components. Computer-Assisted Survey Information Collection focuses on improving how surveys and censuses are designed, conducted and managed, using a set of automated tools to improve data quality, timely reporting and cost-effectiveness. The Integrated Statistical Laboratory gives researchers the power and flexibility to utilize multiple operating systems, many users and large files and databases. The Administrative Records Research System is a computer-based research system designed to expand statistical uses of administrative records to improve coverage of censuses and surveys, to reduce respondent burden and costs, and to generate new information not otherwise available.

As part of our ongoing research efforts to improve business processes, we have established a team within the Computer-Assisted Survey Research Office to enable us to evaluate new techniques envisioned for current business processes. We need hardware, software, and contractor services to successfully complete these tasks.

The Integrated Statistical Laboratory will continue to need upgrades and replacement hardware to remain consistent with standards, updated technology, and requirements for additional disk storage for enhanced tape backup.

Computer-Assisted Survey Information Collection is the U.S. Census Bureau's program to transform our business processes—collection and processing—by making the greatest possible use of automation and telecommunications. This program will result in economic gains by supporting additional workloads and providing quicker access to data that affects Congressional and Presidential policy decisions.

The Computer-Assisted Survey Research Office is working with other U.S. Census Bureau organizations to design and implement a data dissemination capability, via the Integrated Information Solutions program, that will provide customers with as many options as possible to access census information. This Office supports the development of a Bureau-wide Corporate Metadata Repository that will provide the metadata needed to share data across the organization and disseminate information to external users. Our strategy is to provide one general electronic system for customers to access census and survey data, to create customized products, and to acquire pre-designed products. Approval of our Census Modernization initiative is critical to this effort.

force, we will use contractor support, particularly to obtain highly specialized skills and flexibility in the number of workers that can be added or removed as the workload fluctuates. To this end, we recently awarded contracts to several small businesses to provide IT services to the Bureau.

The other risk is a single point of failure at the Bowie Computer Center. We are mitigating this major risk by developing a Contingency Plan to activate in the event of a disaster. We are contracting "hot site" support for mission critical systems. The program areas will continue to participate in developing this Contingency Plan by ensuring that systems requirements are kept up to date.

We discuss these and other program area risks in each section of the Plan, in terms of the risks of implementing a new IT activity or not, as appropriate.

Supporting a "Digital Department of Commerce"

Across the U.S. Census Bureau, we are quickly moving from paper to "digital" technology, providing customers with more choices for data access and improving public trust in data protection and communications. The U.S. Census Bureau is positioned strategically to demonstrate how the Department of Commerce has made tremendous strides as a recognized leader in technology.

You will find examples of how the program areas are actively moving toward a digital operation within each of their respective sections in this Plan.

We are committed to making the entire U.S. Census Bureau a model of electronic commerce, and strongly support the goals of the E-Commerce Department of the 21st Century, and the American Disabilities Act!

In any future endeavor, we will focus more attention to public access of our information by disabled individuals.

Financial Data

Included in Appendix A of this Plan is an Exhibit 42 with 11 systems (included our Census Modernization initiative). We have formulated our costs using a different set of criteria than in last year's Plan. This year, we asked the program areas to more specifically define what we should report as their total IT costs; we also concentrated on learning the cost of the functions being performed.

We describe our IT requirements for the U.S. Census Bureau as a whole and for each program area individually; we then describe our Census Modernization initiative. Finally, we provide "Raines Rules" information for systems on Exhibit 42 and answer additional investment questions posed by the Department of Commerce.